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# CANADIAN CONTRACT RECORD

JOURNAL

PUBLIC WORKS • TENDERS •  
ADVANCE INFORMATION •  
AND MUNICIPAL PROGRESS

EVERY THURSDAY

THIS PAPER REACHES EVERY WEEK THE TOWN AND CITY CLERKS, TOWN AND CITY ENGINEERS, COUNTY CLERKS AND COUNTY ENGINEERS THROUGHOUT CANADA.

Vol. 4.

Toronto and Montreal, Canada, March 2, 1893.

No. 3

**THE CANADIAN CONTRACT RECORD,**  
PUBLISHED EVERY THURSDAY  
As an Intermediate Edition of the "Canadian Architect and Builder."

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Information solicited from any part of the Dominion regarding contracts open to tender.

ADVERTISING RATES ON APPLICATION.

At its Convention held in Toronto, Nov. 20 and 21, 1889, the Ontario Association of Architects signified its approval of the CANADIAN CONTRACT RECORD, and pledged its members to use this journal as their medium of communication with contractors with respect to advertisements for tenders.

The following resolution was unanimously adopted at the First Annual Meeting of the Province of Quebec Association of Architects, held in Montreal, Oct. 10th and 11th, 1890: "Moved by M. Perrault, seconded by A. F. Dunlop, that the Architects of the Province of Quebec now assembled in Convention being satisfied that the CANADIAN CONTRACT RECORD affords us a direct communication with the Contractors,—Resolved, that we pledge our support to it by using its columns when calling for Tenders."

Subscribers who may change their address should give prompt notice of same. In doing so, give both old and new address. Notify the publisher of any irregularity in delivery of paper.

## NOTICE

Subscribers and advertisers are requested to note that, beginning with the first number of Volume IV, in February, the CONTRACT RECORD will be published on THURSDAY, instead of SATURDAY, of each week. This change will ensure the prompt publication up to date of issue of contract news from all parts of Canada. After the date mentioned, news of this character, as well as advertisements, should reach the office of publication not later than noon on WEDNESDAY.

## TO CONTRACTORS.

Tenders will be received (either in bulk or separate) until 6 o'clock on THURSDAY, 16TH DAY OF MARCH, 1893, for the erection of a **BRICK CHURCH** in the Town of Mitchell, Ont. Plans and specifications may be seen, and all information obtained at the office of A. F. WILSON, Sec. Building Committee. The lowest or any tender not necessarily accepted.  
Mitchell, Feb. 21, 1893.



## NOTICE TO CONTRACTORS.

### Esplanade Improvements.

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to eleven o'clock a.m. on THURSDAY, MARCH 2ND, 1893, for the

### REMOVAL OF BOAT HOUSES

together with the Construction of Piling and Wharfing necessary for approaches and support of same.

Plans and specifications may be seen and forms of tender obtained on and after February 23rd inst., at the office of the City Engineer. A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for under \$1,000, and 2½ per cent. for the value of the work tendered over that amount, must accompany each and every tender, otherwise it will not be entertained.

All tenders must bear the bona fide signatures of the contractor and his sureties (see specification U), or they will be ruled out as informal. The Committee do not bind themselves to accept the lowest or any tender.

DANIEL LAMB,  
Chairman of Committee on Works.  
Committee Rooms, Toronto, Feb. 22nd, 1893.

## NOTICE TO CONTRACTORS.

### Removal of Boathouses.

### Time Extended for Receiving Tenders.

Take notice that the time for receiving tenders by the Committee on Works for the removal of boathouses, etc., is extended from March 2nd to March 7th, at 11 o'clock a.m.

DANIEL LAMB,  
Chairman Committee on Works.  
Committee Rooms, February 28th, 1893.



## NOTICE TO CONTRACTORS.

### Ashbridge's Bay Improvements.

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to eleven o'clock a.m. on Tuesday, 7th March, 1893, for the construction of a jetty, and dredging a channel, in connection with the above improvements. Plans and specifications may be seen and forms of tender obtained on and after the 18th inst. at the office of the City Engineer. A deposit in the form of a marked cheque payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for under \$1,000, and 2½ per cent. on the value of the work tendered for over that amount, must accompany each and every tender, otherwise it will not be entertained. All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications), or they will be ruled out as informal. The Committee do not bind themselves to accept the lowest or any tender.

DANIEL LAMB,  
Chairman of Committee on Works.  
Committee Rooms, Toronto, February 14th, 1893.

## CONTRACTS OPEN.

ESSEX, ONT.—The School Board has decided to erect a new building.

LUMSDEN, MAN.—The farmers are considering the erection of a grist mill.

MORAVIANTOWN, ONT. Tenders are asked for the erection of a new church.

BROOKLIN, ONT. Mr. Chas. Mills, of Hastings, contemplates erecting a cheese factory at this place.

DRYSDALE, ONT.—Mr. John S. Horner invites tenders until the 7th inst. for the erection of a brick-clad school house on lot 29, south Boundary of Stanley.

HARVEY, MAN.—The ratepayers have sanctioned the granting of a bonus of \$5,000 towards the erection of a flour mill.

SHELLMOUTH, MAN. The municipal council is arranging to build an iron bridge over the Shell river and mill race at Assessippi.

MERRICKVILLE, ONT.—A resident of this village has offered to donate the sum of \$500 towards the erection of a High School building.

PAIMERTON, ONT. The Public School Board has asked the Council to provide the sum of \$10,000 for the erection of a new school house.

LONDON, ONT.—The C. P. R. will shortly erect a new building on their property near Adelaide street. It will be 33 x 15 feet in size, built of pressed brick.

KENT BRIDGE, ONT.—Tenders will be opened shortly for the building of the Presbyterian church here.—Mr. A. McDonald contemplates erecting a residence this summer.

TILSONBURG, ONT.—The material is being placed on the ground for the erection of the new hotel on the Matheson House site. Work will be commenced as soon as the weather will permit.

BRANTFORD, ONT.—Mr. J. D. Fuller, founder, has purchased the Stubb's block in this city, and contemplates the erection of additional buildings in the spring. Electric power will be used to operate his works.

WINGHAM, ONT. The Wingham Electric Light Company have purchased the water privilege at Lower Wingham, and intend erecting a building there shortly and running the electric light by water power.

BEAUBURG, ONT.—Mr. Thomas Little will receive tenders until the 15th inst. for the stone and brick work of a new school house to be erected in this village. Plans may be seen at the office of Mr. W. Beatty, Pembroke.

GANANOQUE, ONT. The congregation of Grace church has decided to proceed with the enlargement of the church building. It is proposed to extend the building to the south, and remodel the interior in architectural style, providing additional seating accommodation.

MAGOG, QUE.—Building operations promise to be brisk during the coming season. The Dominion Cotton Mills Company contemplate erecting a new office, engraving room, machine shop, indigo dyehouse, blacksmith shop, a club house, and several dwellings. A number of citizens also contemplate putting up residences.

NIAGARA FALLS, ONT.—The Town Council has decided to submit to the ratepayers a by-law asking for \$16,000 additional for the new high school building and grounds. This will make \$26,000 for this purpose, \$10,000 having previously been appropriated. The voting on this by-law will take place on March 13.

ST. CATHARINES, ONT.—Mr. Delos Spence has purchased two of the best stores in Mr. R. Peterson's block, facing the market on King street, and intends to convert the building into an hotel, with an arched arcade from the front down to his property on Somerset street. The work will involve a large outlay.

GALT, ONT.—Mr. F. Mellish, architect, is preparing plans for a number of residences to be erected this season.—The Waterloo Electric Railway Company has been formed, with a capital stock of \$400,000. The company propose to build an electric railway from Galt through Preston, Freeport and Berlin to Waterloo.

HESPELER, ONT.—Building operations promise to be quite brisk in this village during the coming season. The Episcopalians will erect a new church. Mr. Krebs intends putting up a brick residence. Mr. C. N. Schultz is contemplating erecting a fine block on his property. Mr. Picken will erect a residence, and the trustees of School Section No. 16 have decided to erect a new school house.

BROCKVILLE, ONT.—Mr. W. G. Tompkins has purchased the vacant lot on King street, near Bartholomew street, on which he intends to erect a brick terrace during the coming spring.—G. A. Allan, architect, has prepared plans.—W. J. Johnson, architect, of Ogdensburg, N. Y., is preparing plans for alterations to two houses on King street for J. M. Gill, also for the putting in of galleries in the Presbyterian church.

RENFREW, ONT.—Mr. Willis Chipman, C. E., of Toronto, recently held a conference with Reeve Craig regarding the construction of a system of waterworks. He recommended the sinking of an artesian well.—Mr. E. Edey, architect, of Ottawa, is preparing plans for a new building to be erected by Mr. A. Barnett. It will have a frontage of 72 feet, and extend back 100 feet. The ground floor will contain two large stores and bank offices; the first flat to be fitted up for offices and the second flat for halls.—It is stated that Mr. Armstrong will build a cheese factory this spring.

PORT STANLEY, ONT.—A number of new buildings will be erected in this town during the coming season. Messrs. S. Goodwin and J. F. Wilkinson, of St. Thomas, will erect four cottages west of the Fraser house. Mr. O. W. Bougner, of the same city also intends erecting a cottage on Orchard Beach. The syndicate will erect a large addition to the Fraser house. The required amount of stock for the erection of the three-hundred-barrel flour mill is nearly all taken, and so soon as the weather will permit the company intend pushing the undertaking to completion.

MONTREAL, QUE.—The Design Committee of the Sir John Macdonald Memorial fund are asking for designs for the proposed memorial, to be sent in not later than 1st June. Particulars may be obtained by addressing the Secretary, Mr. J.

H. Jacobs, 203 Great St. James street, this city.—The Montreal Electric Railway Company have purchased 57,000 feet of land in St. Ann's ward and will erect a power house capable of furnishing 6,000 horse power. The same company have also bought 5,900 feet on Craig street, and will erect a seven story building thereon, the same to be used as offices, waiting rooms, etc. The company expect to lay 70 miles of track during the summer.

HAMILTON, ONT.—Building permits have been granted as follows: Ontario Box Company rebuilding of the factory on Main street, cost cost, \$1,800; to Thomas Allen, three two-story brick houses on Bay street, between George and Main streets, and one two-story brick house on York street between Locke and Pearl streets, cost \$5,700.

KINGSTON, ONT.—Tenders are now being invited by W. Newlands, architect, until Monday, the 6th inst., for the erection of a residence in the town of Napanee, for Mr. C. S. Warner, barrister.—The promoters of the new hotel to be erected on Bostwick Island, near Gananoque, are expected to arrive in this city from New York in a day or two to make final arrangements for its construction.—Messrs. Power & Son, architects, will receive tenders until noon to-morrow (Friday) for the enlargement of the laundry and the furnishing of laundry plant in connection with the Kingston General Hospital.—The Mason & Risch Piano Company, have leased the building at 123 Princess street, and will make necessary alterations and improvements to meet their requirements.

TORONTO, ONT.—The Building Committee of the Public Library Board has been authorized to carry out the proposed alterations to the reference library, at a cost of \$3,800.—At a conference held last week between President Withrow, of the Industrial Exhibition Association, and others interested, Architect Hall, Surveyor Sankey and Commissioner Chambers were deputed to prepare a plan of a proposed new arrangement of the cattle, sheep and pig pens, and the estimates for drainage, roadway and new stables, for submission to the city council.—At the annual meeting of Marine Association held in this city recently, it was resolved that in view of the keen competition for the carrying trade to the seaboard via New York and the St. Lawrence routes, it was deemed necessary to build an elevator at Kingston with a capacity of 500,000 bushels, and that the Government should grant a site for it.—The City Engineer will be asked to report on the practicability and advisability of constructing a swing bridge between the city and the island at Queen's wharf, with a view of establishing an electric street railway service on the island.—M. Sheard, architect, Yonge street, will receive tenders until the 4th inst. for the erection of a building on McGill street.—A building permit has been issued to the Toronto Land and Investment corporation for additions to dwellings 884 98 College st., cost \$2,700.

OTTAWA, ONT.—We learn that the C. P. R. will open a grand hotel in the new ten story building to be erected by Senator Clemon at the corner of Rideau and Sussex streets.—Deputations from Southampton and Midland recently waited on the Minister of Public Works urging a grant towards the improvement of the harbors at the above named places.—The directors of the Montcalm Railway Company recently waited on the Government asking for the usual subsidy of \$3,200 per mile towards the construction of their road. It will run from St. Lin, in the County of L'Assomption, Que., through the county of Montcalm to Joliette.—E. F. E. Roy, Secretary Department of Public Works, will receive tenders until Monday, the 20th inst. for the erection of a court house, etc., at Regina, N. W. T. Plans may be seen at the above department, this city, and at the office of the Dominion Public Works, Regina.—A circular descriptive of the St. Clair and Erie canal for the construction of which an act of incorporation is sought by the Tilbury Canal Company, was distributed recently to the members of Parliament. The proposal is to cut through the south-western Peninsula of the Province of Ontario from Lake St. Clair to Lake Erie, a distance of thirteen miles. The estimated cost of the work is \$800,000.—The

sum of \$7,500 has been subscribed towards the building fund of the Y. M. C. A. A meeting will be held on Saturday next to select a site after which preparations for the erection of the building will be commenced.

WINNIPEG, MAN.—The question of a new court house will not be definitely settled until after the estimates have been passed. A decision on the plans has not yet been reached.—The Directors of the Industrial Exhibition Association have decided to expend the sum of \$12,000 on the erection of new buildings. A large addition will be built to the horse stable and cattle sheds, an addition to the west of the grand stand, and to the dairy building. A large platform will be built in front of the grand stand near the judge's building.—The Paper Mill Company, of Portage la Prairie, whose works were destroyed by fire recently, will probably not rebuild in that town, but are said to be looking for a suitable location in this city.—Premier Greenway having been refused assistance from the Dominion Government towards the erection of a normal school, in this city, has decided to ask the local House to vote the necessary amount for the purpose, probably \$5,000.—Mr. Browne, architect has prepared plans for a new building to be erected by the Bank of British North America. Mr. Bredin, the manager, states that the directors have approved of everything except the bank's office arrangement. The building would be erected this year, as it was impossible for the institution to remain much longer in their present place. The directors have approved of Selkirk stone with brown stone front and red pressed brick. It will be three stories high with a good basement. The location will be just south of Portage avenue on the east side of Main street and will have a frontage of fifty-four feet.

#### FIRES.

The Public school building at Sussex, N. B., has been destroyed by fire. Loss, \$8,000; insurance \$5,800.—The Rathbun Company's saw mill at Campbellford, Ont., was burned on the 23rd ultimo. Loss on machinery and building, \$6,000, which is said to be covered by insurance.—N. Wenger & Bros. flour mill and one storehouse at Ayton, Ont., was entirely consumed by fire last week. The loss is heavy, being in the neighborhood of \$40,000, on which there is an insurance of \$18,000.—A two-story rough-cast house at Owen Sound, Ont., owned by Mrs. James Lemon and occupied by Mr. Chas. Johnson, was burned recently. Loss, \$1,200; no insurance.—The residence of Mr. C. W. Grogan, on the London Road, St. Thomas, was burned last week. Loss on building \$2,000; insurance, \$1,500.—A disastrous fire occurred in the village of Watford, Ont., on the 23rd ultimo, destroying fourteen business places. The fire started in the centre one of seven brick stores owned by Dr. Dank, of London, the following places being destroyed: office of Dr. Alexander, veterinary surgeon; Drs. McLeay and Auld's offices; W. E. Fitzgerald's law office; Cook's cabinet warehouse; Alexander Saunder's law office; Fortune's block, consisting of four stores; residence of Mr. Mathew; Fortune & Wood's confectionery and bakery; Neff's feed, flour and seed store; Annet's block, consisting of two stores, one occupied by Mr. Annet for groceries, boots and shoes, the other by Mr. McKernacher for machinery and implements, Canadian Order of Foresters hall.—The Queen's Hotel at Millbrook, Ont., was badly damaged by fire on Tuesday. The building was insured for \$2,400, and the loss placed at \$1,500.—Mr. A. T. Bulmer's residence, near the corner of St. George and Lutz streets, Moncton, N. B., has been consumed by fire. Loss, \$1,000; partly covered by insurance.—The residence of Mr. G. Stevens, of Enniskillen, Ont., was totally destroyed by fire on Monday last. The loss is partly covered by insurance.

#### CONTRACTS AWARDED.

MONTREAL, QUE.—The Drummond McCall Pipe Foundry Company, of this city, have been awarded the contract for supplying the pipes and special castings for the new waterworks system at Pembroke, and Buckingham, Que.

BELLEVILLE, ONT.—The contract for erecting the new hotel has been awarded to Mr. George Wilson, of Kingston, whose tender was \$29,000.

The architects are Messrs. Gillen & Gillen of the same city.

KINGSTON, ONT.—Mr. Sinnott will build two brick houses on Johnson street this summer. The contractors for the work are: Mason work, T. Harrison; carpenter work, G. Cuch

HARRISTON, ONT.—Geo. Gray, architect, has awarded contracts for the erection of the following buildings: Implement warehouse, for Messrs. Frost & Wood; brick residence for John Scarff, cost \$2,000; residence for Rev. J. P. Doherty, cost \$3,500; brick school house at school section No. 11, Howick, cost \$1,900.

BRIGHT, ONT.—Messrs Whitehead & Fairfax, of Woodstock, have secured the contract for erecting the new cheese factory at this place.

GODERICH, ONT.—The contract for the proposed extension of the piers in the harbor, has been awarded to Messrs. Broder & McNaughton, of Ottawa, at the price of \$35,000.

DRUMHO, ONT.—The contract for the brick work of Mr. David Patton's new residence has been let to Mr. Charles Buck.

#### HOLLOW WALLS.

The subject of hollow brick walls is attracting considerable attention at present and is becoming more and more important. During the last ten years at least 80 per cent. of the external walls in Southampton were erected in this manner:

The method adopted is this:—Two 4½-inch walls are built, with an intervening space of 2 inches, and connected by means of light cast-iron clamps, shaped somewhat like the letter H, the two parallel bars being about 3 inches by 1 inch by ¼ inch, and connecting bar from ¾ inch to ½ inch diameter, and of such length as to allow the parallel bars to rest in the frog of the brick. There is a boss or moulding cast on the connecting bar in the centre of its length, which prevents the passing of moisture along the clamps. These clamps are usually built in every fourth course in height, and about 3 feet apart in length of the wall, care being taken to place them in each alternate tier in such a manner that the clamp in one tier comes over the centre of the space between the clamps in the next lower tier, or, as it may be termed, breaking joint.

#### CAPACITY OF PORTLAND CEMENT.

One barrel of Portland cement of 400 pounds has the capacity to cover, when used with one barrel of sand, 67 square feet, 1 inch thick; 90 square feet, ¾ inch thick; 134 square feet ½ inch thick. Two barrels of sand, 104 square feet, 1 inch thick; 130 square feet ¾ inch thick; 208 square feet ½ inch thick. Three barrels sand, 140 square feet, 1 inch thick; 187 square feet, ¾ inch thick; 280 square feet ½ inch thick. For cheapest good brick and stone mortar use, Portland cement, 1 part clean coarse sand, 6 parts; fresh slacked lime, ½ part. One barrel of Portland cement is sufficient to make enough mortar to lay 2,000 bricks with ¼ inch joint. This will set slowly. A very large batch can be made up at one time without fear of injury from setting.

#### TESTING WROUGHT IRON.

The best system of testing is that which is applied to the actual materials to be used in construction. Thus, for instance, if a certain number of rolled joists are required an additional number should be ordered, and specimens for testing, should be taken promiscuously from the entire quantity supplied. A certain number of rolled joists should be broken across to

see whether they conform to the calculated transverse strength, after which portions may be cut from the flanges or webs to be tested by simple tension and compression, the elastic limit being ascertained when possible. The same system should be pursued with plates and angles for built girders, and ties, struts, and rivets should be tested to the several breaking strains for which they have been calculated.

## MUNICIPAL DEPARTMENT.

### DECISION ON THE LETTING OF MUNICIPAL CONTRACTS.

(Continued from last week.)

Speaking of the powers of such corporations in *Spaulding vs. Lowell*, 23 Pick, 74, Shaw, C. J., says: "They can exercise no powers but those which are conferred upon them by the act by which they are constituted, or such as are necessary to the exercise of their corporate powers or duties, and the accomplishment of the purposes of their association. *French vs. Quincy*, 3 Allen, 12. This rule has often been affirmed in this State with the just qualification that such corporations may resort to the usual and convenient means of executing the powers granted; that is to say, as applied to this case, that the village in order to prevent or abate nuisances, might resort to such means as were usual and convenient. *Mills vs. Gleason*, 11 Wis. 510; *Gilman vs. City of Milwaukee*, 61 Wis. 592. 21 N. W. Rep. 640; *Bell vs. City of Plattville*, 71 Wis. 142, 36 N. W. Rep. 831; *Meinzer vs. City of Racine*, 68 Wis. 241, 245, 32 N. W. Rep. 139. The power to prevent and abate nuisances is an expressing grant of power, and not implied one; and "it has long been an established principle in the law of corporations that they may exercise all the powers within the fair intent and purpose of their creation, which are reasonably proper to give effect to powers expressly granted. In doing so, unless restricted in this respect, they must have a choice of means adapted to ends, and are not confined to any one mode of operation," and their discretion in this respect cannot be revised or interfered with by the courts, except where the substantive power is exceeded, or fraud is shown, or there is a manifest invasion of private rights. 1 Dill. Mun. Corp. §§ 91, 94, and cases cited; *Benson vs. President, etc.*, 74 Wis. 32, 39, 41, N. W. Rep. 1017, *Kelly vs. Milwaukee*, 18, Wis. 83, 85; *Schank vs. Mayor*, 69 N. Y. 444; *Spaulding vs. Lowell*, 23 Pick. 71, 80. It was not necessary, therefore, that there should have been express power conferred on the village to build, or contract for building, the crematory. The village Board might contract for it as a means adapted to the end of preventing or abating nuisances, and as a health measure, and so within the general purpose for which the village was organized.

2. Upon the authority of *Dean vs. Charlton*, 23 Wis. 590, it is contended that, as the mode of building the crematory was a patented one, the contract was void, on the ground that there could not be fair competition in bidding for the work, which by the charter was required to be let to the lowest bidder. Rev. St. § 921. The case of *Dean vs. Charlton* was decided by a divided court, and there was a vigorous and able dissenting opinion by Chief Justice Dixon. The Legislature subsequently validated the assessments so held void in that case. *Mills vs. Charlton*, 29 Wis. 400; *Dean vs. Borchsenius*, 30 Wis. 236—in which cases the validity of this legislation was sustained. Since that time the direct question involved in that case, which was in respect to assessments against abutting lots for paving streets, has not been before the court; but in *Dean vs. Charlton* the majority of the court, after commenting upon the case of *Harlem Caslight Company vs. Mayor, etc.*, 33 N. Y. 309, expressly disclaimed deciding whether the city might not have contracted for laying such pavement at its own ex-

**MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.**

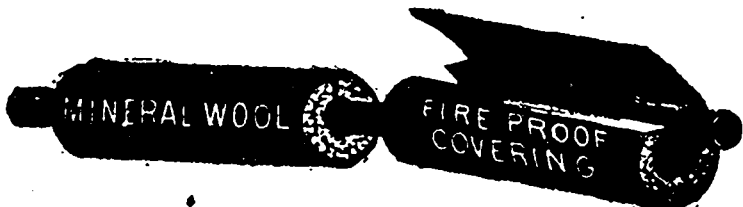
pense, under its general municipal powers, which is really the question here presented. In view of the legislation which followed Dean vs. Charlton, and the fact that it was decided by a divided court, and the general tenor of subsequent decisions, and the further fact that patented methods and processes now enter so largely into various classes and kinds of public work, we are not disposed to extend the rule of that case beyond the particular point there decided. In Hobart vs. Detroit, 17 Mich. 246, and Motz vs. Detroit, 18 Mich. 515, decided at about the same time, a contrary conclusion was reached: and in Pavement Company vs. Painter, 35 Cal. 699, and Burgess vs. Jefferson, 21 La. Ann. 143, the rule of the majority of the court in Dean vs. Charlton was sustained. Since then, in re Dugro 50 N. Y. 513, the question has been decided in conformity with Hobart vs. Detroit, supra, and other like cases; and in Yarnold vs. City of Lawrence, 15 Kan. 129, 131, Brewer, J., notices the diversity of judicial opinion on the question, and is inclined to favor the views of the courts of Michigan and New York. Baird vs. Mayor, etc., 96 N. Y. 567. In the present case there was a definite, well-settled price for the patent and specifications, at which it was held and offered to the city and all contractors, which would limit the recovery of the patentee, so that in fact there was free competition for the work and materials and all else except the patent. The city had the benefit of all the competition of which the nature of the work admitted; and in such cases, where the entire work is done at the general expense of the city, the statute ought not to be so constructed as to exclude the city from availing itself of desirable patented works or improvements, as to which there is but one price, and for which there can, in the nature of the case, be no competition, and when, for performing the work and furnishing materials, the advantage of competition is secured. While the rule of Dean vs. Charlton may be upheld as applied to assessments charged against abutting lots where the lot owners have the right secured to them to construct in front of their property, the improvements for or in which a patented method or process is used, we cannot see that there is any good reason to hold that the statute applies to the patents, mode, or process, when in respect to all else the statutory requirement of competition is secured. Under any other theory a municipal corporation would be obliged to forego the purchase and use of all patented implements, modes or process—a result which we cannot think the Legislature contemplated. For these reasons the order of the Circuit Court must be affirmed.

The decision is accompanied by copious notes of other cases which may be consulted in the journal from which we have quoted.

**WILLIS CHIPMAN, B. A. Sc.,**  
M. Can. Soc. C. E.; M. Am. Soc. C. E.;  
M. Am. W. W. Ass'n.  
**CIVIL AND SANITARY ENGINEER**  
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Sewage Disposal  
103 BAY STREET - TORONTO.

**MUNICIPAL OFFICIALS**

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**MINERAL WOOL**



are made use of for deadening sound in floors and partitions, insulation of heat and cold, fireproofing, etc., also SECTIONAL MINERAL WOOL COVERING for steam pipes, boilers, exposed water pipes, etc.

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I have tested with Reihle's Testing Machine the tensile strength of six blocks made from the barrel of Thorold Hydraulic Cement sent me last summer. The blocks were made of neat cement, and were 14 inches square at the smallest part. Four of them were kept 23 days in air, and only broke under the following weights: No. 1, 420 lbs.; No. 2, 470 lbs.; No. 3, 436 lbs.; No. 4, 420 lbs.; averaging 437 lbs. each, or 194 lbs. per square inch. The remaining two were kept one day in air and forty-seven in water, and broke under the following weight: No. 5, 420 lbs.; No. 6, 450 lbs., averaging 435 lbs. each, or 193 lbs. per square inch.

**P. A. PETERSON,**  
Chief Engineer,

Quebec, Montreal, Ottawa & Occidental R.)

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Thorold, Ontario.

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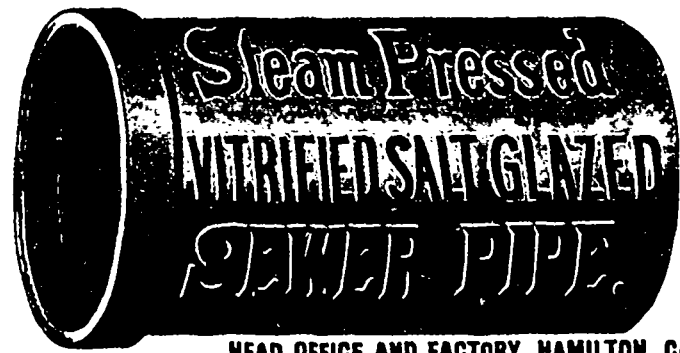
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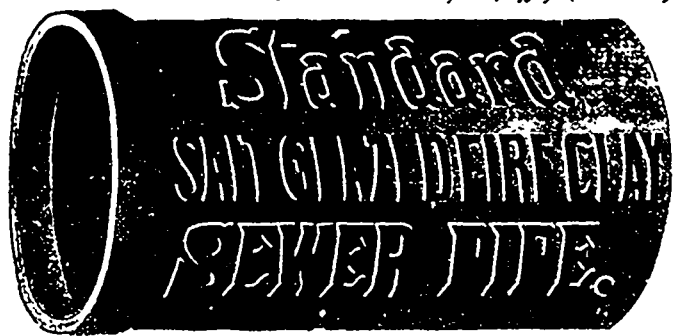
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Meter Supports, Dial Extensions, Fixture Locks, Water Cart Registers, Strainers, Coupling Seals and Reservoir Indicators.

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**Vitrified Terra Metallic Paving Brick**

- FOR -

STABLE, COACH HOUSE, BOILER HOUSE, BREWERY FLOORS AND YARDS  
Also all places of heavy and light traffic.

The only Genuine Vitrified Brick. The best in the world for Sidewalks & Street Crossings  
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Peterborough, Ont.  
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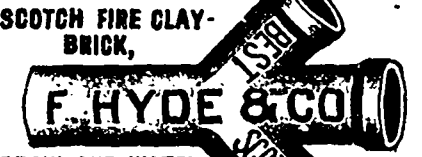
**RAILWAY AND HIGHWAY BRIDGES**

Viaducts, Piers, Roofs, Turntables and  
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Tension members forged without welds. Riveting  
done by hydraulic or compressed air machines.  
Specialties: Good workmanship and strict adherence  
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CAPACITY: 2,000 TONS PER ANNUM.

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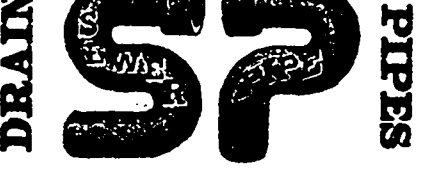
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DEALERS IN



**DRAIN AND WATER  
PIPES,**  
Double Strength for rail-  
way culverts, etc.

*Sewer Bottoms or Invert Blocks, Cement.*  
NOTE—Only pure SCOTCH unglazed Fire Clay  
Linings will be kept in stock; any other quality is  
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**For SEWERS, CULVERTS; also WATER  
PIPES, INVERTS, VENTS, &C.**  
Goods shipped by water or rail to all points

**The Thos. Nightingale Pressed Brick Co.**  
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Telephone 449. Works at Port Credit.

**Prices of Building Materials.**

LUMBER.  
CAR OR CARGO LOTS.

|  | Toronto. | Montreal. |
|--|----------|-----------|
| 1 1/2 to 2 clear picks, Am. ins.         | 30 00    | 32 00     |
| 1 1/2 to 2 three upper, Am. ins.         | 27 00    | 30 00     |
| 1 1/2 to 2, pickings, Am. ins.           | 37 00    | 40 00     |
| 3 inch clear                             | 50 00    | 52 00     |
| 1 x 10 and 12 dressing and better        | 18 00    | 20 00     |
| 1 x 10 and 12 mill run                   | 13 00    | 14 00     |
| 1 x 10 and 12 dressing                   | 14 00    | 16 00     |
| 1 x 10 and 12 common                     | 12 00    | 13 00     |
| 1 x 10 and 12 spruce culls               | 10 00    | 11 00     |
| 1 x 10 and 12 maple culls                | 9 00     | 10 00     |
| 1 inch clear and pick                    | 28 00    | 30 00     |
| 1 inch dressing and better               | 18 00    | 20 00     |
| 1 inch siding, mill run                  | 14 00    | 16 00     |
| 1 inch siding, common                    | 11 00    | 12 00     |
| 1 inch siding, ship culls                | 10 00    | 11 00     |
| 1 inch siding, mill culls                | 8 00     | 9 00      |
| Cull scantling                           | 8 00     | 9 00      |
| 1 1/2 and thicker cutting up plank       | 22 00    | 25 00     |
| 1 inch strips, 4 in. to 8 in. mill run   | 14 00    | 15 00     |
| 1 inch strips, common                    | 11 00    | 12 00     |
| 1 1/2 inch flooring                      | 14 00    | 15 00     |
| 1 1/2 inch flooring                      | 14 00    | 16 00     |
| XXX shingles, sawn, per M                | 2 30     | 2 35      |
| XX shingles, sawn                        | 1 30     | 1 35      |
| YARD QUOTATIONS.                         |          |           |
| Mill cull boards and scantling           | 10 00    | 10 00     |
| Shipping cull boards, promiscuous widths | 13 00    | 13 00     |
| Shipping cull boards, stocks             | 16 00    | 16 00     |
| Hemlock scantling and joist up to 16 ft. | 11 00    | 12 00     |
| Hemlock scantling and joist up to 28 ft. | 12 00    | 13 00     |
| Hemlock scantling and joist up to 30 ft. | 13 00    | 14 00     |
| Scantling and joist, up to 16 ft         | 14 00    | 14 00     |
| " " " " 18 ft                            | 15 00    | 15 00     |
| " " " " 20 ft                            | 16 00    | 16 00     |
| " " " " 22 ft                            | 17 00    | 17 00     |
| " " " " 24 ft                            | 19 00    | 19 00     |
| " " " " 26 ft                            | 21 00    | 21 00     |
| " " " " 28 ft                            | 23 00    | 23 00     |
| " " " " 30 ft                            | 25 00    | 25 00     |
| " " " " 32 ft                            | 27 00    | 27 00     |
| " " " " 34 ft                            | 29 00    | 29 00     |
| " " " " 36 ft                            | 31 00    | 31 00     |
| " " " " 38 ft                            | 33 00    | 33 00     |
| " " " " 40 ft                            | 36 00    | 36 00     |

**Toronto. Montreal.**

|   |       |       |       |       |
|---|-------|-------|-------|-------|
| Cutting up planks, 1 1/2 and thicker, dry   | 25 00 | 26 00 | 25 00 | 26 00 |
| Cutting up planks, 1 1/2 and thicker, board | 18 00 | 19 00 | 18 00 | 19 00 |
| Cedar for block paving, per cord            |       | 5 00  |       | 5 00  |
| Cedar for Kerling, 4 x 14, per M            |       | 14 00 |       | 14 00 |
| B. M.                                       |       |       |       |       |
| 1 1/2 in. flooring, dressed, F. M.          | 31 00 | 32 00 | 31 00 | 32 00 |
| 1 1/2 inch flooring, rough, F. M.           | 28 00 | 29 00 | 28 00 | 29 00 |
| 1 1/2 " " dressed, F. M.                    | 30 00 | 31 00 | 30 00 | 31 00 |
| 1 1/2 " " undressed, F. M.                  | 19 00 | 20 00 | 19 00 | 20 00 |
| 1 1/2 " " dressed                           | 22 00 | 23 00 | 22 00 | 23 00 |
| 1 1/2 " " undressed                         | 12 00 | 13 00 | 12 00 | 13 00 |
| Beaded sheeting, dressed                    | 35 00 | 36 00 | 35 00 | 36 00 |
| Clapboarding, dressed                       | 12 00 | 13 00 | 12 00 | 13 00 |
| XXX sawn shingles, per M                    |       | 2 65  |       | 2 70  |
| 18 in.                                      |       | 2 30  |       | 2 35  |
| Sawnlath                                    |       | 2 00  |       | 2 00  |
| Cedar                                       |       | 2 90  |       | 2 90  |
| Red oak                                     | 30 00 | 40 00 | 30 00 | 40 00 |
| White                                       | 35 00 | 45 00 | 35 00 | 45 00 |
| Basswood, No. 1 and 2                       | 18 00 | 20 00 | 18 00 | 20 00 |
| Cherry, No. 1 and 2                         | 70 00 | 70 00 | 80 00 | 80 00 |
| White ash, No. 1 and 2                      | 25 00 | 30 00 | 35 00 | 35 00 |
| Black ash, No. 1 and 2                      | 18 00 | 30 00 | 18 00 | 30 00 |
| Dressing stocks                             | 16 00 | 16 00 | 22 00 | 22 00 |
| Picks, American inspection                  | 40 00 | 40 00 | 40 00 | 40 00 |
| Three uppers, Am. inspection                | 50 00 | 50 00 | 50 00 | 50 00 |

**BRICK - M**

|  |       |       |
|--|-------|-------|
| Common Walling                           | 7 50  | 6 00  |
| Good Facing                              | 9 00  | 8 50  |
| Sewer                                    | 8 50  | 9 00  |
| Pressed Brick, Per M:                    |       |       |
| Plain brick, f. o. b. at Milton          | 18 00 |       |
| " " 2nd quality                          | 14 00 |       |
| " " 3rd                                  | 10 00 |       |
| Hard Building                            | 8 00  |       |
| Moulded and Ornamental, per 100          | 10 00 |       |
| Roof Tiles                               | 24 00 |       |
| Diamond locking tile                     | 16 00 |       |
| First quality, f. o. b. at Campbellville | 18 00 | 25 00 |
| and quality, f. o. b.                    | 14 00 | 20 00 |
| 3rd                                      | 11 00 | 17 00 |
| Ornamental, per 100                      | 3 00  | 10 00 |
| Tiles                                    | 24 00 | 26 00 |
| Plain brick, "A" f. o. b. Don Valley     | 18 00 | 25 00 |
| " " " " "                                | 16 00 | 22 00 |
| " " " " "                                | 15 00 | 18 00 |
| Trojan or Buff                           | 24 00 | 30 00 |
| Ornamental, per 100                      | 3 00  | 60 00 |
| Plain brick, f. o. b. Port Credit        | 18 00 |       |
| " " 2nd quality                          | 13 00 |       |
| " " 3rd                                  | 10 00 |       |
| Hard Building                            | 8 00  |       |
| Ornamental, per 100                      | 3 00  | 10 00 |

**SAND.**

Per Load of 1 1/2 Cubic Yards 1 25 1 25

**STONE.**

|  |        |       |
|--|--------|-------|
| Common Rubble, per toise, delivered  | 14 00  | 14 00 |
| Large flat Rubble, per toise, delivered  | 18 00  | 18 00 |
| Foundation Blocks, per c. ft. Kent Freestone Quarries, Moncton, N. B., per cu. ft. f. o. b.    | 1 00   |       |
| River John, N. S., brown Freestone, per cu. ft. f. o. b.                                       | 95     |       |
| Ballochmyle  | 80     | 90    |
| New York Blue Stone  |        | 65    |
| Granite (Stamstead) Ashlar, 6 in. to 12 in., rise 9 in., per ft. Most Freestone                |        | 70    |
| Thomson's Gatewa'bridge, cu. ft. Credit Valley Rubble, per toise, delivered                    | 13 00  | 14 00 |
| Credit Valley Brown Coursing, per superficial yard   | 2 50   | 3 00  |
| Credit Valley Brown Dimension, per cubic foot  | 90     | 90    |
| Credit Valley Grey Coursing, per superficial yard  | 1 50   | 2 00  |
| Credit Valley Grey Dimension, per cubic foot   | 75     | 80    |
| Madoc Rubble, delivered, per toise   | 14 00  | 14 50 |
| Madoc dimension floating, f. o. b. Toronto, per cubic ft.                                      | 30     | 32    |
| Ohio Freestone, No. 1 Blue Promiscuous, f. o. b.   | 60     |       |
| No. 1 Blue Dimension   | 65     |       |
| No. 1 Buff Promiscuous   | 80     |       |
| No. 1 Buff Dimension   | 85     |       |
| The above prices means freight and duty paid.  |        |       |
| 2 in. sawed flagging per sq. ft.   | 11     |       |
| 2 1/2 " " "  | 13 1/2 |       |
| 3 " " "  | 16     |       |
| 4 " " "  | 22     |       |
| 5 " " "  | 27 1/2 |       |
| 6 " " "  | 33     |       |
| Duty to be added to these prices.  |        |       |
| Quebec and Vermont rough granite for building purposes, per c. ft. f. o. b. quarry             | 33     | 35    |
| For ornamental work, cu. ft. Granite paving blocks, 8 in. to 12 in. x 6 in. x 4 1/2 in., per M | 50 00  |       |
| Granite curbing stone, 6 in. x 20 in., per lineal foot   | 70     |       |

**SLATE.**

|                                |       |       |  |  |
|--------------------------------|-------|-------|--|--|
| Roofing (# square)             |       |       |  |  |
| " red                          | 14 00 | 16 00 |  |  |
| " purple                       | 9 00  | 8 00  |  |  |
| " untinting green              | 8 50  | 6 00  |  |  |
| " black                        | 7 50  | 7 50  |  |  |
| Terra Cotta Tile, per sq.      | 22 00 |       |  |  |
| Ornamental Black Slate Roofing | 7 50  |       |  |  |

**PAINTS. (In oil, # lb.)**

|                                |      |      |      |      |
|--------------------------------|------|------|------|------|
| White lead, Can., per 100 lbs. | 6 25 | 6 50 | 6 00 | 6 25 |
| " zinc, Can.                   | 6 50 | 7 50 | 7 50 | 8 00 |
| Red lead, Eng.                 | 5 50 | 6 50 |      | 6    |
| " vermilion, per 100 lbs.      | 1 60 | 1 75 | 1 60 | 1 75 |
| " Indian, Eng.                 | 90   | 1 00 | 90   | 1 00 |
| Yellow ochre                   | 20   | 20   | 20   | 20   |
| Yellow chrome                  | 5    | 20   | 4    | 6    |
| Green, chrome                  | 15   | 80   | 15   | 80   |
| " Paris                        | 7    | 28   |      | 28   |
| " "                            | 22   | 40   |      | 40   |

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|                                 |       |       |       |       |
|---------------------------------|-------|-------|-------|-------|
| Black, lamp                     | 15    | 25    | 12    | 25    |
| Blue, ultramarine               | 15    | 30    | 12    | 18    |
| Oil, linseed, raw, f. Imp. gal. | 65    | 68    | 61    | 65    |
| " " boiled                      | 68    | 72    | 66    | 68    |
| " " refined                     | 78    | 85    | 75    | 75    |
| Putty                           | 2 1/2 | 3 1/2 | 2 1/2 | 3 1/2 |
| Whiting, dry, per 100 lbs.      | 75    | 1 00  | 60    | 75    |
| Paris white, Eng., dry          | 90    | 1 25  | 9     | 1 10  |
| Litharge, Am.                   | 6 1/2 | 8     | 6 1/2 | 8     |
| Sienita, burnt                  | 15    | 30    | 12    | 15    |
| Umber                           | 8 1/2 | 12    | 12    | 15    |

**CEMENT, LIME, etc.**

|                                      |       |       |
|--------------------------------------|-------|-------|
| Cement, Portland, per bbl.           | 2 50  | 2 50  |
| " Portland                           | 1 50  | 1 50  |
| " Queenston                          | 1 50  | 1 50  |
| " Napanee                            | 1 50  | 1 50  |
| " Hull                               | 1 50  | 1 50  |
| " Ontario                            | 1 10  |       |
| " German                             | 2 65  | 2 85  |
| " London                             | 2 45  | 2 90  |
| " Newcastle                          | 2 35  | 2 50  |
| " Belgian                            | 2 3   | 2 40  |
| " Co-adian                           | 2 25  | 2 30  |
| " Roman                              | 2 75  | 3     |
| " Parian                             | 4 50  | 4 75  |
| " Superfine                          | 6 50  | 7 00  |
| Keene's Course "Whites"              | 4 50  | 4 75  |
| Calced plaster, per barrel           | 1 50  | 1 70  |
| Fire Bricks, Newcastle, per M Scotch | 20 00 | 24 00 |
| " "                                  | 30 00 | 35 00 |
| Lime, Per Barrel, Grey               | 40    |       |
| " White                              | 55    |       |
| Plaster, Calced, N. R.               | 2 00  |       |
| " N. S.                              | 2 00  |       |
| Hair, Plasterers', per bag           | 50    | 1 00  |

**HARDWARE.**

|   |      |      |
|---|------|------|
| Cut nails, 5 d & 6d, per keg                          | 2 40 | 2 25 |
| Steel " "   | 2 50 | 2 35 |
| CUT NAILS, PRICK AND CUT SPIKES.                      |      |      |
| 40d, hot cut, per 10 lbs                              | 5    | 5    |
| 30d, " "  | 1    | 10   |
| 20d, 16d and 12d, hot cut, per 100 lbs                | 15   | 15   |
| 10d, hot cut, per 100 lbs                             | 20   | 20   |
| 8d, 9d, " "   | 25   | 25   |
| 6d, 7d, " "   | 40   | 40   |
| 4d to 5d, " "   | 60   | 60   |
| 3d, " "   | 1 00 | 1 00 |
| 2d, " "   | 1 50 | 1 50 |
| 4d to 5d cold cut, not polished or blued, per 100 lbs | 50   | 50   |

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|  |      |      |
|--|------|------|
| 3d to 5d cold cut, not polished or blued, per 100 lbs  | 90   | 90   |
| PINK BLUED NAILS.                                      |      |      |
| 3d, per 100 lbs  | 1 50 | 1 5  |
| 4d, " "  | 1 00 | 2 00 |
| CASING AND MOV, FLOORING, SHOOK AND TOBACCO BOX NAILS. |      |      |
| 12d to 30d, per 100 lbs                                | 50   | 50   |
| 10d, " "   | 60   | 60   |
| 8d and 9d, " "   | 75   | 75   |
| 6d and 7d, " "   | 90   | 90   |
| 4d to 5d, " "  | 1 10 | 1 10 |
| 3d, " "  | 1 50 | 1 60 |
| FINISHING NAILS.                                       |      |      |
| 3/8 to 1/2 inch, per 100 lbs                           | 85   | 85   |
| 1/2 to 3/4 " " "                                       | 1 00 | 1 00 |
| 3/4 to 1 " " "   | 1 15 | 1 15 |
| 1 to 1 1/4 " " "                                       | 1 35 | 1 35 |
| 1 1/4 to 1 1/2 " " "                                   | 1 75 | 1 75 |
| 1 1/2 to 2 " " "                                       | 2 25 | 2 25 |
| SLATING NAILS.   |      |      |
| 5d, per 100 lbs  | 85   | 85   |
| 4d, " "  | 85   | 85   |
| 3d, " "  | 1 25 | 1 25 |
| 2d, " "  | 1 75 | 1 75 |
| COMMON BARREL NAILS.                                   |      |      |
| 1 inch, per 100 lbs                                    | 1 50 | 1 50 |
| 7/8 " " "  | 1 75 | 1 75 |
| 3/4 " " "  | 2 25 | 2 25 |
| CLINCH NAILS.  |      |      |
| 1/2 to 3/4 inch, per 100 lbs                           | 85   | 85   |
| 3/4 to 1 " " "   | 1 00 | 1 00 |
| 1 to 1 1/4 " " "                                       | 1 15 | 1 15 |
| 1 1/4 to 1 1/2 " " "                                   | 1 35 | 1 35 |
| 1 1/2 to 2 " " "                                       | 2 00 | 2 00 |
| 2 to 2 1/2 " " "                                       | 2 50 | 2 50 |
| SHARP AND FLAT PRESSED NAILS.                          |      |      |
| 3/8 to 1/2 inch, per 100 lbs                           | 1 35 | 1 35 |
| 1/2 to 3/4 " " "                                       | 1 60 | 1 60 |
| 3/4 to 1 " " "   | 1 65 | 1 65 |
| 1 to 1 1/4 " " "                                       | 1 85 | 1 85 |
| 1 1/4 to 1 1/2 " " "                                   | 2 50 | 2 50 |
| 1 1/2 to 2 " " "                                       | 3 00 | 3 00 |
| Structural Iron:                                       |      |      |
| Steel beams, per 100 lbs                               | 2 75 | 2 50 |
| " channels   | 2 85 | 2 60 |
| " angles   | 2 50 | 2 30 |
| " tees   | 2 80 | 2 55 |
| " plates   | 2 55 | 2 35 |
| Sheared steel bridge plate                             | 2 25 | 2 35 |

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